

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-007136**Date Inspected:** 16-May-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG and Tower Fabrication**Summary of Items Observed:**

CWI Inspectors: Mr. Tu Jun, Mr. Zhang Zhi Neng, Mr. Xu Le Fong,

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

Prior to Caltrans QA Inspectors' concurring with issuance of OBG deck plate closed rib green tag releases a review of the ultrasonic inspection database is performed to verify all closed rib tack weld repair locations have been ultrasonically accepted. Today this QA Inspector, Mr. Paul Dawson, performed data entry of ultrasonic inspection information from the field generated Ultrasonic inspection data sheets onto the common drive computer database for the following OBG deck panels: DP123-001, DP126-001, DP234-001, DP450-001, DP448-001 and DP150-001.

Tower Bay 11

The QA Inspector observed ZPMC welder stencil 044560 is using welding procedure specification WPS-B-T-2221-B-U3C-S-2 to make submerged arc groove weld 2-SD1-FBSA4-2A/C29B. The QA Inspector observed ZPMC Quality Control personnel monitoring this welding and the QA Inspector measured a welding current of approximately 620 amps and 30.0 volts. The QA Inspector observed ZPMC had preheated the base material using an electric heating element. Items observed on this date appeared to generally comply with

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applicable contract documents.

The QA Inspector observed ZPMC welder Mr. Dong Chang Xi, stencil 70046 is using welding procedure specification WPS-B-T-2332-TC-P5-F to complete flux cored weld WSD1-FASA3-B/C-23. The QA Inspector observed that the base material where the welding was being made had been preheated with an electric heater and ZPMC QC Inspectors were monitoring this welding. The QA Inspector measured a welding current of approximately 300 amps and 33.2 volts. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Liao Lanfei, stencil 066398 is using welding procedure specification WPS-B-T-2332-TC-P5-F to complete flux cored weld WSD1-FASA3-B/C-36. The QA Inspector observed that the base material where the welding was being made had been preheated with an electric heater and ZPMC QC Inspectors were monitoring this welding. The QA Inspector measured a welding current of approximately 290 amps and 34.0 volts. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Zhu Tang Quan, stencil 069043 is using welding procedure specification WPS-B-T-2332-TC-P5-F to complete flux cored weld WSD1-FASA3-B/C-22. The QA Inspector observed that the base material where the welding was being made had been preheated with an electric heater and ZPMC QC Inspectors were monitoring this welding. The QA Inspector measured a welding current of approximately 310 amps and 31.0 volts. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder stencil 050041 is using welding procedure WPS-B-T-2232-TC-T4B-F to make flux cored groove welds in the 2G (horizontal) position on weld NSD1-A166-E/J-32B. The QA Inspector measured a welding current of approximately 315 amps and 31.6 volts. QA Inspector confirmed a minimum base material temperature of 110 degrees Celsius and that the base material had been preheated with an electric heating element prior to welding. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder stencil 057244 is using welding procedure WPS-B-T-2232-TC-T4B-F to make flux cored groove welds in the 2G (horizontal) position on weld NSD1-A166-E/J-32B. The QA Inspector measured a welding current of approximately 300 amps and 30.6 volts. QA Inspector confirmed a minimum base material temperature of 110 degrees Celsius and that the base material had been preheated with an electric heating element prior to welding. Items observed by the QA Inspector appear to comply with project specifications.

Tower Bay 10

The QA Inspector observed ZPMC welder Mr. Wang Gongzhi, stencil 057244 is using welding procedure WPS-B-T-2232-TC-T4B-F to make flux cored groove weld NSD1-SA166-E/J-32B between north tower shaft, lift 2 skin B and skin C. The QA Inspector measured a welding current of approximately 300 amps and 30.6 volts. The QA Inspector observed that ZPMC QC personnel were monitoring this welding and that the base material had been preheated with an electric heating element prior to welding. Items observed by the QA Inspector appear to comply with project specifications.

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The QA Inspector observed ZPMC welder stencil 050041 is using welding procedure WPS-B-T-2232-TC-T4B-F to make flux cored groove weld NSD1-SA166-E/J-32B between north tower shaft, lift 2 skin B and skin C. The QA Inspector measured a welding current of approximately 315 amps and 31.6 volts. The QA Inspector observed that ZPMC QC personnel were monitoring this welding and that the base material had been preheated with an electric heating element prior to welding. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Ms. Bu Xuezhen, stencil 052075 is using welding procedure WPS-B-T-2232-TC-T4B-F to make flux cored groove weld NSD1-SA166-E/J-73B between north tower shaft, lift 2 skin A and skin E. The QA Inspector measured a welding current of approximately 330 amps and 31.8 volts. The QA Inspector observed that ZPMC QC personnel were monitoring this welding and that the base material had been preheated with an electric heating element prior to welding. Items observed by the QA Inspector appear to comply with project specifications.

Summary of Conversations:

See above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Clifford,William	QA Reviewer
